



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,803	04/20/2006	Eric Dallies	273903US0PCT	5036
22850	7590	04/01/2011	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.			GRAY, JILL M	
1940 DUKE STREET				
ALEXANDRIA, VA 22314			ART UNIT	PAPER NUMBER
			1798	
		NOTIFICATION DATE	DELIVERY MODE	
		04/01/2011	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,803	<b>Applicant(s)</b> DALLIES ET AL.
	<b>Examiner</b> Jill Gray	<b>Art Unit</b> 1798

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 December 2010.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4 and 6-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-4 and 6-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-444)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No./Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
     Paper No./Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 16, 2010 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-4, 6-11, 13-14, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Publication EP 1044939 (translation), for reasons of record.

#### **Regarding Independent claims 1 and 19**

The translation discloses a polyolefin fiber for reinforcing products based on fibers and a hydraulic-setting substance comprising a size that is a mixture of "SILASTOL cut5A", an ester of polyglycole of fatty acid and "SILASTOL cut 5B", fatty alcohol phosphate mixture. See [0001] and [0063]. This mixture is the same as that set forth by applicants in their specification as being suitable. Accordingly, it is the examiner's position that this mixture has the function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the

hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance, as required by present claim 1. In addition, the translation discloses that the size is present on the fiber in an amount of 0.15% to 1.5% by weight of dry matter compared to the fiber weight. See [0070].

Regarding dependent claims 2-4, 6-11, 13-14, and 17-18

Regarding claim 2, the translation discloses that the polyolefin fibers can be polypropylene fibers. See [0001].

Regarding claims 3-4, the translation discloses fibers having a titre and tenacity within the present claimed ranges. See [0068].

Regarding claim 6, the translation discloses that the size is applied as a dispersion.

Regarding claims 7-8, the translation discloses adding the aforementioned fiber to a hydraulic-setting substance and products produced therefrom. [0053].

Regarding claim 9, the translation discloses products having from 0.3 to 4% by weight of fibers relative to the total dry weight of the mixture. See [0054].

Regarding claim 10, the translation discloses a corrugated plate. See [0061].

Regarding claim 11, the translation discloses that the shaped products can be manufactured by a process comprising a mixture based on hydraulic binder, fibers and water, draining, and shaping the product (see [0003]), further disclosing the Hatschek process as being known. See [0004]-[0005]. This the same process disclosed by applicants. Therefore, the examiner has reason to believe that the process disclosed by the translation results in the same process steps as required by present claim 11.

Regarding claims 13-14 and 17-18, the translation discloses a size that comprises at least a product based on fatty acid polyethylene glycol ester and phosphoric acid ester compounds and at least a product based on fatty acid derived polyethylene glycol ester.

Therefore, the teachings of the translation anticipate the invention as claimed in present claims 1-4, 6-11, 13-14, and 17-19.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-4, 6-10, 12-14, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak, 5,846,654 in view of European Patent Publication EP 1044939 as applied to claims 1-4, 6-11, 13-14, and 17-19.

**Regarding Independent claims 1 and 19**

Modrak discloses a polyolefin fiber that can be used for the reinforcement of products based on fibers and a hydraulic-setting substance, said fibers comprising a finish that can include (for example) mixtures of ethoxylated fatty acid esters and ethoxylated alcohol phosphates, or mixtures of polyethylene glycol 400 monolaurate and polyoxyethylene(5) tridecylphosphate neutralized with diethanolamine. More specifically, Modrak discloses fibers comprising a finish comprising a product based on fatty-acid polyethylene glycol ester and phosphoric acid ester compounds or a product based on a fatty acid derived polyethylene glycol ester. See entire document, and for example the abstract, and column 8, line 57 through column 9, and line 38. In addition,

Modrak discloses that the finish provides properties that may be desired for processing the fibers and renders the fibers dispersible in a water-concrete mixture. Note column 8, lines 59-64. This teaching renders obvious the required "size carries a function which assists the fiberizing operation, a function in which the fiber can be wetted by the composition of the hydraulic-setting substance, and a function of promoting adhesion to the hydraulic-setting substance". Furthermore, the finish composition of Modrak is the same as the size contemplated by applicants in present claim 1, therefore, the examiner would have reason to believe that composition of Modrak would function in the same manner as said size. The same composition necessarily has the same properties, and hence, it is the examiner's position, that it would function in the same manner.

Modrak does not specifically teach the amount of size present on the fiber.

The translation is as set forth above and teaches polyolefin fiber for reinforcing products wherein said polyolefin fibers comprise a sizing agent that is present on the fibers in an amount of 0.15% to 1.5% by weight of dry matter compared to the fiber weight. See [0070]. The sizing agents of Modrak and the translation are substantially similar. It would have been obvious to one having ordinary skill in the art to apply the sizing composition of Modrak to the polyolefin fibers in an amount in the range of 0.15% to 1.5% wt% as taught by the translation with a reasonable expectation of success of producing fibers having a reasonably sufficient adhering ability to hydraulic-setting substances.

As to the newly added limitation of "wherein the size is applied to the fiber during one or more fiber processes selected from the group consisting of fiberizing, leaving the

die or spinneret, transporting, drawing, chopping and unwinding from the bobbin", this language is drawn to process limitations in a product claim. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP 2113.

Regarding dependent claims 2-4, 6-10, 12-14 and 17-18

Regarding claim 2, Modrak discloses that the polyolefin can be polypropylene. See abstract.

Regarding claim 3, Modrak discloses that the fibers can have a denier (fineness) of about 0.5-100 dpf (0.055 to 111.111 dtex), most preferably about 8-16 dpf (8.88-17.77 dtex). This teaching renders obvious the present claimed range of a titre (fineness) of between 0.5 and 10dtex. See column 7, lines 7, lines 9-11 and Examples.

Regarding claim 4, Modrak discloses that his fibers have a tenacity of at least about 10 g/d (8.826 cN/dtex). This teaching renders obvious the requirement of present claim 4 of a tenacity of at least 4 cN/dtex. See column 3, lines 52-56 and Examples.

Regarding claim 6, Modrak does not specifically disclose how the size is applied. However, the general requirements of claim 6 embody all nature of application of a spin finish, i.e. the specific components itself or in a solution or dispersion or emulsion, wherein either of these is aqueous based or based on another suitable liquid vehicle.

Hence, the requirements of this claim are not construed to be inventive. In addition, the teaching of Modrak that the finish can be applied to the fibers renders obvious the requirement that the size is applied alone.

Regarding claims 7-8, Modrak discloses a method of reinforcing a product based on fibers and a hydraulic-setting substance comprising adding a fiber to the hydraulic-setting substance. See column 7, line 54 through column 8, line 28, and lines 62-64.

Regarding claim 9, Modrak discloses the fibers are added in an amount of from about 0.01wt% to about 5 wt%. See column 8, lines 24-25.

Regarding claim 10, Modrak discloses that the product can be a board. See column 8, lines 19-20.

Regarding claim 12, Modrak does not specifically disclose a mortar composition. However, Modrak discloses matrix materials such as cement, Portland cement, asphalt-based compositions, water-settable inorganic mixtures, and concrete board materials. This teaching clearly suggests the usage of mortar. Accordingly, it would have been obvious to the skilled artisan to form a mortar composition comprising a hydraulic binder and the aforementioned fibers.

Regarding claims 13-14 and 17-18, as set forth above and incorporated herein, Modrak discloses a product based upon fatty acid polyethylene glycol ester and phosphoric acid ester compounds, and/or a product based on a fatty acid derived polyethylene glycol ester.

Therefore, the teachings of Modrak would have rendered obvious the invention as claimed in present claims 1-4, 6-10, 12-14, and 17-19.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 1044939 (translation), as applied above to claims 1-4, 6-11, 13-14, and 17-18.

The translation is as set forth above, but does not specifically disclose mortar as the binder.

Regarding claim 12, the translation discloses matrix materials such as cement, Portland cement, plaster, and water-settable inorganic mixtures. This teaching clearly suggests the usage of mortar. Accordingly, it would have been obvious to the skilled artisan to form a mortar composition comprising a hydraulic binder and the aforementioned fibers.

Therefore, the teachings of the translation would have rendered obvious the invention as claimed in present claim 12.

7. Claims 1-4 and 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Publication EP 310,100 (Hansen), in view of "CITHROL" product information, cited to show the state of the art.

Hansen discloses polypropylene fibers for reinforcement of products based on fibers and a hydraulic-setting substance and products produced therewith, said fibers having a coating thereon, per claims 1-2, 7-8, 10, 12 and 19. See entire document, for example, abstract, page 4, lines 39-42. Also, Hansen discloses, as examples, several suitable surfactants, including "CITHROL A". It should be noted that the "CITHROL" products are surfactants based upon fatty acid derived polyethylene glycol esters. Accordingly, it is the examiner's position that the teachings of Hansen would have

provided a suggestion to the skilled artisan for using a surfactant of the type contemplated by applicants, namely, a nonionic surfactant or product based upon a fatty acid derived polyethylene glycol ester. In addition, Hansen discloses that the coating is present on the fibers in an amount ranging from 0.15 to 3.0% by weight and that the fibers are added to the hydraulic in an amount of about 1.5 to 3% by weight, as required by claims 1 and 9. See page 4, lines 45-48 and page 6, lines 7-24. Also, Hansen discloses that the antistatic coating is applied in any of the manners set forth in present claim 6, and that the process is manufactured according to a process that is essentially as claimed in present claim 11. See Examples.

As to the newly added limitation in claim 1 of "wherein the size is applied to the fiber during one or more fiber processes selected from the group consisting of fiberizing, leaving the die or spinneret, transporting, drawing, chopping and unwinding from the bobbin", and the similar process language of claim 19, this language is drawn to process limitations in a product claim. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). MPEP 2113.

As to claim 3, this limitation is drawn to the size of the polypropylene fibers, wherein changes of size are not a matter of invention, in the absence of factual

evidence to the contrary. As to claim 4, it would have been obvious to the skilled artisan to choose fibers of a specific tenacity commensurate with the desired end use. For example, fibers to be used in the formation of ballistic articles would suitably be chosen with a different tenacity than fibers to be used in the formation of a diaper. Regarding claims 13-18, it is the examiner's position that these claims are no more than a preferential selection of a known sizing agent from among many being selected for its art recognized purpose. Accordingly, this would have been an obvious variant to the skilled artisan in the absence of clear factual evidence of superior or unexpected properties that are directly related to said sizing agent. Moreover, the teachings in Hansen of surfactants such as "CITHROL" would have provided a suggestion to the skilled artisan for agents comprising fatty acid derived polyethylene glycol esters.

Therefore, the teachings of the prior art would have rendered obvious the invention as claimed in present claims 1-4 and 6-19.

***Response to Arguments***

8. Applicant's arguments filed December 16, 2010 have been fully considered but they are not persuasive.

Applicants' remarks regarding the comparative examples and CRACKSTOP in the specification have been noted. The examiner's position is as set forth in previous Office and incorporated herein. Note page 10 of the last Office Action.

Applicants argue that claims 15 and 16 were not rejected over EP 939 or Modrak and that the rejection of these claims is improper and these claims are allowable.

In this regard, the fact that claims 15 and 16 were not rejected over EP 939 or Modrak is not germane and does not preclude the fact that these claims have been rejected. In particular, applicants' attention is directed to page 8 of the last Office Action where claims 15 and 16 were rejected under 35 U.S.C. 103 as unpatentable over European Patent Publication EP 310,100 (Hansen) in view of "CITHROL" product information.

Applicants argue that EP 939 requires a corona treatment prior to size application and teaches away from direct application of the size and in contrast, the claimed invention requires direct application of the size to the fiber during processing and accordingly, EP 939 cannot teach or suggest the present invention.

In this regard, it is the examiner's position that present claim 1, while including a process limitation drawn to the possible points of application of the sizing component, does not preclude additional processing steps of the fibers that could enhance the adherence of the sizing component to the fiber surface. Nonetheless, EP 939 still discloses polyolefin fibers for reinforcement of products based on fibers and a hydraulic-setting substance wherein the fiber comprises a size that is the same mixture as contemplated by applicants. The processing steps of when the size is applied do not distinguish the end product of the prior art from the end polyolefin fiber of claim 1.

Applicants argue that with respect to Modrak, because Modrak does not teach, suggest or recognize that size concentration is important, this variable is not recognized as being result effective, meaning that "routine optimization" of the variable cannot occur.

In this regard, applicants' arguments are moot in view of the new grounds of rejection.

Applicants argue that Hansen does not suggest the required sizing agents and that sizing agents containing only the specified antistatic agents in the applied art would yield inferior products having inferior properties.

In this regard, as set forth previously, Hansen discloses sizing agents that are surfactants based upon fatty acid derived polyethylene glycol esters. These are the same type of sizing component claimed by applicants. Applicants have provided no factual evidence on this record, by way of back-to-back comparison of the cited prior art that which they regard as there invention. Hence the allegation that the sizing agents of Hansen would yield inferior properties is attorney arguments unsupported by facts where facts are necessary.

Applicants argue that Hansen does not provide any specific guidance as to which sizing agents to use which would one of ordinary skill in the art to the claimed agents, further arguing that this is particularly true for claims 13, 14, 17 and 18 for sizing agents comprising fatty-acid-derived polyethylene glycol ester and claims 13-16 for sizing agents comprising phosphoric acid compounds, natural-oil-based and/or esterquats and that the Hansen fiber yields inferior products.

In this regard, as set forth previously, Hansen discloses sizing agents that are surfactants based upon fatty acid derived polyethylene glycol esters. These are the same type of sizing component claimed by applicants. Furthermore, the fact that Hansen uses surfactants that are based upon fatty acid derived polyethylene

glycol esters clearly provides direction to the skilled artisan that surfactants of this type would be suitable and thus provides a suggestion of their success. Moreover, applicants have provided no factual evidence on this record by way of back-to-back comparison of the prior art product of Hansen and the present claimed invention to support applicants' allegations of inferiority. As to claims 13-18, the teachings of Hansen clearly establish the suitability of surfactants of this type as sizing agents. Accordingly, the selection of a known material based on its suitability for its intended purpose is *prima facie* obvious. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). MPEP 2144.07.

Applicants' arguments regarding "CITHROL" have been noted. However, it is the examiner's position that at the time the invention was made, the skilled artisan in view of the collective teachings of Hansen and "CITHROL" would have been reasonably motivated to use a surfactant of the type contemplated by applicant.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524. The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1798

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/  
Primary Examiner  
Art Unit 1798

jmg